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*A cyclic oligosaccharide used to improve drug aqueous solubility*

## Product Categories

PRODUCT TYPE   
 Biochemicals (18 318) —  
 Carbohydrates (71)

## References & Product Citations

### Product Description References

1. Katageri, A.R., and Sheikh, M.A. Cyclodextrin a gift to pharmaceutical world review. *Int. Res. J. Pharm.* **3(1)**, 52-56 (2012).

2. Shewale, B.D., Sapkal, N.P., Raut, N.A., et al. Effect of hydroxypropyl- $\beta$ -cyclodextrin on solubility of carvedilol. *Indian J.Pharm.Sci.* **70(2)**, 255-257 (2008).

3. Loftsson, T., Jansook, P., and Stefánsson, E. Topical drug delivery to the eye: Dorzolamide. *Acta. Ophthalmol.* **90(7)**, 603-608 (2012).

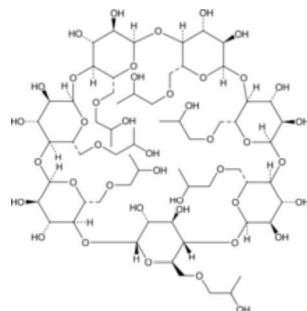
4. Rao, V.M., Nerurkar, M., Pinnamaneni, S., et al. Co-solubilization of poorly soluble drugs by micellization and complexation. *Int. J. Pharm.* **319(1-2)**, 98-106 (2006).

### Product Citations

Palamarchuk, A., Efanov, A., Maximov, V., et al. Akt phosphorylates and regulates Pcd4 tumor suppressor protein. *Cancer Research* **65(24)**, 11282-11286 (2005).

# 2-Hydroxypropyl- $\beta$ -cyclodextrin

Item No. 16169



## Technical Information

<b>Formal Name</b>	2-hydroxypropyl ethers $\beta$ -cyclodextrin
<b>CAS Number</b>	128446-35-5
<b>Synonyms</b>	<b>HP-<math>\beta</math>-CD</b>
<b>Molecular Formula</b>	(C <sub>6</sub> H <sub>9</sub> O <sub>5</sub> ) <sub>7</sub> (C <sub>3</sub> H <sub>7</sub> O)
<b>Formula Weight</b>	1541.6
<b>Purity</b>	≥95%
<b>Formulation</b>	A crystalline solid
<b>Solubility</b> <a href="#">(Learn about Variance in Solubility)</a>	<b>DMF: 30 mg/ml</b> <b>DMSO: 30 mg/ml</b> <b>Ethanol: 30 mg/ml</b> <b>PBS (pH 7.2): 50 mg/ml</b>
<b>SMILES</b>	<chem>O[C@H]1[C@@](O[C@](O[C@H](COCC(O)C)[C@](O[C@](O[C@H](COCC(O)C)[C@](O2)([H])[C@@H]3O)([H])[C@H]3O)([H])[C@@H]4O)([H])[C@H]5O)([H])[C@H](O[C@@](O[C@]([C@@H]6O)([H])[C@H](O[C@@](O[C@]([C@@H]7O)([H])[C@H](O[C@@](O[C@]([C@@H]8O)([H])[C@H](O[C@@]2([H])[C@H]8O)COCC(O)C)([H])[C@H]7O)COCC(O)C)([H])[C@H]6O)COCC(O)C)([H])[C@H]1O)COCC(O)C</chem>
<b>InChi Code</b>	InChI=1S/C63H112O42/c1-22(64)8-85-15-29-50-36(71)43(7)85(92-29)100-51-30(16-86-9-23(2)65)94-59(45(80)38(51)73)102-53-32(18-88-11-25(4)67)96-61(47(82)40(53)75)104-55-34(20-90-13-27(6)69)98-63(49(84)42(55)77)105-56-35(21-91-14-28(7)70)97-62(48(83)41(56)76)103-54-33(19-89-12-26(5)68)95-60(46(81)39(54)74)101-52-31(17-87-10-24(3)66)93-58(99-50)44(79)37(52)72/h22-84H,8-21H2,1-7H3/t22?,23?,24?,25?,26?,27?,28?,29-,30-

1 g

Ready to ship

5 g

Ready to ship

10 g

Ready to ship

25 g

Ready to ship

## Product Description

2-Hydroxypropyl- $\beta$ -cyclodextrin (HP- $\beta$ -CD) is a cyclic oligosaccharide containing seven D-(+)-glucopyranose units that is widely used to improve the aqueous solubility of various compounds, especially those containing a phenyl group.<sup>1,2,3</sup> The circular arrangement of its glucose units produces a torus-shaped ring configuration in which the CH<sub>2</sub> groups and ether linkages of the molecule face the hollow interior, resulting in a nonpolar, hydrophobic cavity and a polar, hydrophilic exterior. When combined in solution with other compounds, the nonpolar aromatic portions of that compound interact with the nonpolar interior of the HP- $\beta$ -CD molecule, thus isolating the aromatic portion of the molecule from the water and thereby increasing its aqueous solubility.<sup>1,4</sup> HP- $\beta$ -CD is a mixture containing HP- $\beta$ -CD with variable hydroxypropyl group substitutions.

**WARNING** This product is not for human or veterinary use.

## InChi Key

,31-,32-,33-,34-,35-,36-,37-,38-,39-,40-,41-,42-,43-,44-,45-,46-,47-,48-,49-,50-,51-,52-,53-,54-,55-,56-,57-,58-,59-,60-,61-,62-,63-,64-,65-,66-,67-,68-,69-,70-,71-,72-,73-,74-,75-,76-,77-,78-,79-,80-,81-,82-,83-,84-,85-,86-,87-,88-,89-,90-,91-,92-,93-,94-,95-,96-,97-,98-,99-,100-  
 O=C1C=CC(=O)N1  
 LKONHMLTSA-N

## Shipping &amp; Storage Information

## Storage

Room temperature

## Shipping

Room Temperature in continental US; may vary elsewhere

## Stability

≥ 2 years

## Certificates of Analysis &amp; Batch Specific Data

**Get Batch-Specific Data and Documents by Batch Number**

Provide batch numbers separated by commas to download or request available product inserts, QC sheets, certificates of analysis, data packs, and GC-MS data.

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[1-Stearoyl-2-Arachidonoyl-sn-Glycerol](#)



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Information provided in the product description is from published literature. Due to the nature of scientific experimentation, your results (e.g., selectivity and effective concentrations) or specific application for this product may differ. If you have questions about how this product fits your application, please contact our technical support staff.

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